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SPECIFICATION FOR STERILIZED CREAM

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SPECIFICATION FOR STERILIZED CREAM

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(*Continued on page* 9)

Indian Standard
SPECIFICATION FOR STERILIZED CREAM

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 13 December 1968, after the draft finalized by the Dairy Products and Laboratory Apparatus Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 Cream finds ready use for enriching the diet and energizing popular beverages like coffee and tea. Sterilization of cream extends its keeping quality considerably, besides preserving the quality of the original cream. Production of sterilized cream is now an accepted practice for conserving surplus milk fat to meet its shortage, and it is now being produced by a number of dairies in the country.

0.3 It is not possible to produce high grade sterilized cream from milk of poor hygienic quality irrespective of the subsequent method of treatment of handling. It is, therefore, important to exercise utmost care in obtaining milk of good hygienic quality. This standard has been prepared with a view to providing an optimum quality sterilized cream. This standard should help the dairies to produce sterilized cream of good quality and to exercise the necessary quality control.

0.4 The method of manufacture of canned (tinned) sterilized cream may be as given in **0.4.1**. It may be prepared by any other process demonstrated to be equally efficient.

0.4.1 Fresh, sweet cream (obtained by separation of fresh, sweet, clean milk in a centrifugal separator) is standardized to a fat content of 20 percent or more. Permitted stabilizers, emulsifiers, singly or in combination, may then be added. Addition of thickening agents is prohibited. The material may be pre-heated at 80°C and homogenized in a machine at suitable pressure and temperature. It should then be immediately cooled to below 15°C, filled into suitable containers which are properly sealed. These cans are sterilized in either batch-type retorts or continuous automatic sterilizers (same as for evaporated milk), at a suitable temperature and pressure.

0.5 While formulating this standard, necessary consideration has been given to the relevant rules prescribed by the Government of India under the *Prevention of Food Adulteration Act, 1954*. This standard is subject to restrictions imposed under the Act and the rules framed thereunder wherever applicable.

0.6 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements and methods of sampling and test for sterilized cream.

2. TERMINOLOGY

2.1 Sterilized cream shall be cream containing 20 percent or more of fat which has been homogenized, canned and sterilized. It may contain sodium salts of phosphoric and polyphosphoric acid, citric acid, carbonic acid and calcium chloride in quantities not exceeding 0·3 percent.

3. REQUIREMENTS

3.1 Appearance — Sterilized cream shall have a colour ranging from white to yellow. It shall be clean and free from any objectionable discolouration.

3.2 Odour and Flavour — The sterilized cream shall have a clean, pleasant odour. It shall be free from objectionable off-flavours.

3.3 Body and Texture — The cream shall have a satisfactory body (viscosity), smooth, valvety texture and uniform consistency. It shall be free from objectionable graininess, lumpiness, fat separation and sediment.

3.4 The sterilized cream shall be free from adulterants.

3.5 All ingredients used in manufacture of sterilized cream shall be clean and in every way fit for human consumption.

3.5.1 Standardization of cream may be done by adding either skim milk or milk to cream.

3.6 The product shall be processed and packed in equipment and premises maintained under hygienic conditions (*see* IS : 2491-1963†). It shall also be stored and distributed under hygienic conditions.

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*Rules for rounding off numerical values (*revised*).

†Code for sanitary conditions for food processing units (Since revised).

3.7 The materials shall also comply with the requirements specified in Table 1.

TABLE 1 REQUIREMENTS FOR STERILIZED CREAM

SL No.	CHARACTERISTICS	REQUIREMENT	METHODS OF TEST	
			Appendix of This Standard	Cl No. of IS : 3509-1966*
(1)	(2)	(3)	(4)	(5)
i)	Fat, percent by weight, *Min*	20·0	—	4·2
ii)	Titratable acidity (as lactic acid), percent by weight, *Max*	0·15	—	5
iii)	Incubation test	To satisfy the requirements of the test	A	—

*Methods of sampling and test for cream.

4. PACKING AND MARKING

4.1 Packing — Sterilized cream shall be packed in hermetically sealed containers in such a way as to protect it from deterioration.

4.2 Marking — Each container shall be legibly and indelibly marked with the following particulars:

a) Name of the manufacturer,
b) Type of the material,
c) Batch or code number, and
d) Minimum net weight.

4.2.1 These containers may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

5. SAMPLING

5.1 Representative samples of sterilized cream for testing conformity to this standard shall be drawn as described in Appendix B.

6. TESTS

6.1 Tests shall be carried out as prescribed in the appropriate appendices specified in col 4 and 5 of Table 1.

6.2 Quality of Reagents — Unless specified otherwise, pure chemicals shall be employed in tests, and distilled water (*see* IS : 1070-1960*) shall be used where the use of water as a reagent is intended.

NOTE — ' Pure chemicals ' shall mean chemicals that do not contain impurities which affect the results of analysis.

APPENDIX A

[*Table* 1, *Item* (iii)]

INCUBATION TEST

A-1. GENERAL

A-1.1 The purpose of this test is to determine the shelf life of the product. In order that the period of the test is shortened, the possibly existent micro-organisms and their spores are given the optimum temperature at which they thrive. If they do not show their presence even at the end of this test, the material passes the test.

A-2. PROCEDURE

A-2.1 Incubate the samples at a temperature of 38°C for 14 days.

A-2.2 The samples shall pass the test if:

a) the cans do not show any bulge due to positive pressure within, and

b) the product inside the can has not curdled or thinned and is free from any objectionable taste or odour, sliminess, etc.

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*Specification for water, distilled quality (*revised*). (Since revised).

APPENDIX B

(*Clause* 5.1)

SAMPLING OF STERILIZED CREAM

B-1. GENERAL REQUIREMENTS

B-1.0 In drawing, preparing, storing and handling the samples, the following precautions and directions shall be observed.

B-1.1 The sampling instrument shall be sterile, clean and dry when used.

B-1.2 Precautions shall be taken to protect the samples, the material being sampled, the sampling instrument and the containers from adventitious contamination.

B-2. SCALE OF SAMPLING

B-2.1 Lot — In any consignment, all the containers of the same size and from the same batch of manufacture shall be grouped together to constitute a lot.

B-2.1.1 Samples shall be tested for each lot for ascertaining the conformity of the material to the requirements of this standard.

B-2.2 The number of containers to be selected from the lot shall depend on the size of the lot and shall be as given in Table 2.

TABLE 2 SCALE OF SAMPLING

No. of Cans in the Lot (1)	No. of Cans to be Selected (2)
101 to 300	9
301 „ 500	12
501 „ 1 000	15
1 001 „ and above	21

Note — Up to 100, the sample size may be as agreed to between the purchaser and the vendor.

B-2.3 These containers shall be selected at random from the lot and to ensure the randomness of selection, a random number table as agreed to between the purchaser and the vendor shall be used. In case such a table is not available, the following procedure shall be adopted.

B-2.3.1 Starting from any container, count them as 1, 2, 3,..., etc, up to *r* in one order, where *r* is the integral part of *N*/*n* (*N* being the total number of cases in the lot and *n* the number of cans to be chosen). Every *r*th container thus counted shall be separated until the requisite number of cans are obtained from the lot to give the samples for test.

B-2.3.2 In addition to the containers selected according to **B-2.3.1**, 6 containers shall be selected from each lot at random for incubation test.

B-3. TEST SAMPLE AND REFEREE SAMPLE

B-3.1 The containers selected according to **B-2.3.1** and **B-2.3.2** shall be divided into three equal sets and labelled with all the particulars of sampling, one of these sets of samples shall be for the purchaser, another for the vendor and the third for the referee.

B-3.2 Referee Sample — The referee sample consists of a set of sample containers for general and chemical tests (*see* **B-2.3.1**) and a set of sample containers for incubation tests (*see* **B-2.3.2**). These containers shall bear the seals of the purchaser and the vendor (or their representatives) and shall be kept at a place as agreed to between the two.

B-4. NUMBER OF TESTS

B-4.1 Test for general requirements, for fat percent by weight and titratable acidity percent by weight shall be made on the set of individual sample containers selected according to **B-3.1**.

B-4.2 Incubation test shall be conducted on the individual sample containers selected according to **B-2.3.2**.

B-5. CRITERION FOR CONFORMITY

B-5.1 The lot shall be decided as conforming to the specification if the the test samples taken in **B-4.1** and **B-4.2** satisfy the corresponding requirement of the specifications.

(Continued from page 2)

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